

Exhibit DS-6
DESC Response to ORS 6-4

**DOMINION ENERGY SOUTH CAROLINA, INC.
OFFICE OF REGULATORY STAFF'S SIXTH AND CONTINUING REQUEST
FOR PRODUCTION OF BOOKS, RECORDS AND OTHER INFORMATION
DOCKET NO. 2019-226-E**

REQUEST NO. 6-4:

In the response to ORS AIR 1-15, the Company conducted a “retire or replace” study of Wateree 1 and 2 that evaluated 12 scenarios. The response states that “On February 19, 2020 the Wateree 2 unit, a coal-fired unit built in 1970, was in Reserve Shutdown due to mild winter conditions and the generator had been in a dry air layup due to the duration of the outage. An isolation valve failed and hydrogen gas leaked into the generator caught fire and damaged the generator. The generator repair and replacement alternatives were estimated to cost from \$20 million to \$30 million and would require 12 to 24 months.”

- a. Has the Company reached a decision about what to do with the Wateree units? Please explain the decision making process that took place.
- b. Please provide all internal documentation, workpapers, communications, that occurred in regard to this process. This should include any Root cause analysis or other report associated with the isolation valve failure and hydro gas fire, consultant reports, estimates, reports to upper management, etc.
- c. Please provide a timeline of when the unit was placed in Reserve Shutdown, and when the fire occurred.
- d. Over the last 10 years, identify each time that the Wateree units were placed on Reserve Shutdown, how long and the reason for the shutdown.
- e. Was the starting point to create the database used in the “retire or replace study” the IRP MultiSym database? Please provide a list of all changes made to the MultiSym IRP database to create the data used in the “retire or replace” study. All of the specific changes to setup the 12 scenarios, which have already been outlined in the report attached to ORS AIR 1-15 can be excluded.
- f. Explain why Scenario Repair 2 (W1&2 retire 2028, CC added) was found to be the least cost case, and lower in cost than Scenario Repair 1 (W1&2 retire 2044, ICTs added), given that in the IRP, the results for basically the same two cases were very different. In the IRP, RP3 (W1&2 retire 2028, CC added) was one of the most expensive cases (based on Med DSM, 0 CO2, Base gas) and more expensive compared to RP2 (W1&2 retire 2044, ICTs added).
- g. What analysis did the Company conduct to decide to retire units the Wateree units in 2028 in various cases that were run? Is it possible that a lower cost resource plan could exist in which the Wateree units would be retired earlier?

RESPONSE NO. 6-4:

- a. Yes. In discussions with vendors and Company staff, the Company has determined that the repair of the existing stator was improbable because of

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damage found to the core baffles as well as concerns with the integrity of the stator frame itself. Repairs to these baffles require a complete restacking of the core iron, a process that would take one to two years with questions as to whether core iron could be reused. This decision was supported via separate conference calls with both General Electric (GE) and Mechanical Dynamics & Analysis (MD&A).

The Company immediately initiated several options for replacement of the stator mid-section. First, discussions commenced regarding the timeframe and cost estimates for the purchase of a new stator mid-section to be used with the existing generator rotor which, as previously communicated verbally with the ORS, requires a rewind. At the same time, Electric Power Research Institute (EPRI), GE and MD&A conducted a search for potential units that would be retrofits to Wateree No. 2 from units identified to be in a retired or "mothballed" status throughout the industry. This research identified three units that were available to replace the existing stator mid-section with minimal modifications. GE was then contracted to perform an evaluation of three units that were identified as potential replacements. In addition, a construction firm was asked to provide a secondary evaluation of the cost estimates for removal, transport and reinstallation of a generator mid-section from the three identified units.

Concurrently, repair analyses were conducted which determined that repair/replacement of the unit was the least cost for customers.

Relocation of a used generator mid-section would require inspection, partial demolition to allow further inspection, complete demolition from the existing location, transportation and reinstallation at Wateree, a process involving multiple heavy lifts. In addition, evaluation of the true state of the unit being purchased could only be made after each component section was removed for evaluation. Following completion of these engineering and cost evaluations, the decision was made to purchase a new stator mid-section and to rewind the existing generator field from Wateree Station Unit 2.

- b. Please see folder entitled "Attachments to Response No. 6-4(b)." Confidential and sensitive information is provided pursuant to S.C. Code Ann. § 58-4-55 and subject to non-disclosure.
- c. Wateree Unit 2 was placed in forced outage status on January 24, 2020, at 4:24 p.m. Earlier that morning, the unit had developed a steam leak on the #1 main turbine control valve and after consultation with DESC's Economic Resource Commitment group and System Control, the decision was made to bring the unit offline immediately to repair the leaking valve to minimize additional damage. This repair was completed on the morning of January 30, 2020, at 7 a.m., at which point Wateree Unit 2 transitioned into a maintenance outage status to address issues with the auxiliary boiler that supplies steam to

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both Wateree units during startup and shutdown. The repairs to the auxiliary boiler were completed on February 3, 2020, at noon, at which point Wateree Unit 2 transitioned into reserve shutdown status due to low system load demands and economic dispatch.

On February 19, 2020, at approximately 7:20 a.m., plant operations observed indications of an explosion within the Wateree Unit 2 generator casing. Following a visual inspection of the exterior of the turbine which showed evidence of an explosion, the unit transitioned into a forced outage status to facilitate damage assessment.

- d. Please see attached spreadsheet entitled "Attachment to Response 6-4(d)."
- e. The expansion plan for the Wateree #2 repair analysis was IRP Resource Plan 2, but the following updates were made to the PROSYM inputs.

Station File	Updated winter capacity of CEC station. Updated maintenance for Jasper station
Fuels File	Updated coal and oil prices. Updated Natural Gas Firm Transportation (FT) costs for McMeekin and CEC. Added turbine replacement fuel group. Added FT costs for new ICTs.
Maintenance File	Updated station maintenance per March 4, 2020 maintenance update.
Hydro File	Revised Saluda station monthly energy. Updated Fairfield and Saluda station maintenance per March 4, 2020 maintenance update.

For the updated Wateree #2 repair analysis, see files in folder entitled "Confidential Wateree #2 Repair Analysis (Updated) updated." In that same folder, see attachment "Wateree 2 Summary(051120) - A Walker Summary.xlsx" for a description of the 8 scenarios that were included in the final analysis. This confidential and sensitive information is being provided pursuant to S.C. Code Ann. § 58-4-55 and is subject to non-disclosure.

- f. Before running the Wateree #2 repair analysis, certain inputs were updated as described above. This is the reason that the combined cycle resource plans look more favorable than the ICT plans in the Wateree #2 repair analysis.
- g. Retiring the units in 2028 is based on ELG requirements that would require equipment upgrades or retiring plants by 2028. The Company is not aware of any lower cost plans, and all modeling involving early retirement of units and replacement with new generation resources results in higher cost plans than leaving existing resources in place as long as practical. Additionally, the lowest

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cost new generation resources currently available for installation between now and 2028 require significant upgrades to gas transmission capacity.

See attached updated confidential Wateree #2 repair analysis, which is being provided pursuant to S.C. Code Ann. § 58-4-55 and is subject to non-disclosure.

PERSON RESPONSIBLE: James W. Neely, Andrew Walker, Henry E. Delk, Jr.